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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,137	05/31/2006	**Ralf Knischka**	CO/2-22993/A/PCT	1985

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EXAMINER	
NGUYEN, VU ANH	
ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
03/11/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/581,137	KNISCHKA ET AL.	
	Examiner	Art Unit	
	Vu Nguyen	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/29/2010 has been entered.

Response to Amendment

2. Acknowledgement is made of the amendment to the claims, wherein claims 1 and 7 have been amended, claims 5, 6 and 18-20 have been cancelled. Claims 1-4 and 7-17 are pending.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7-9, 11-13, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Schimmel et al. (US 6,197,833).

5. Regarding the limitations set forth in these claims, Schimmel et al. (Schimmel, hereafter) teaches a thermosetting powder coating composition comprising a thermally curable epoxide-functional film-forming resin (Abstract; col. 16, lines 13-37; col. 28, lines 36-46), an epoxide-reactive crosslinking agent, and a flow-controlling agent (Abstract), wherein the flow control agent is a block polymer prepared by ATRP of a first monomer and a second monomer. The polymer is in the form being claimed (col. 13, lines 53-65). The disclosed initiators (col. 9, lines 43-52) read on the claimed *In* and *E* moieties. The polymer can be linear, branched, hyperbranched, star or graft polymer, which read on the claimed *y* and *n* values. The first monomer and the second monomer are selected from a group of C1-C20 alkyl (meth)acrylates (col. 4, lines 62-65), including *tert*-butylacrylate (col. 5, line 5), and are such that the T_g of the second monomer is about 40-100°C higher than the T_g of the first monomer (col. 4, lines 38-51). The polymer comprises 15-85 wt% or the first monomer and 15-85 wt% of the second monomer (col. 4, lines 1-21). The disclosed polymer has an M_n of 5,000-30,000 (col. 4, line 28), which reads on the claimed *x* value. In the working examples, block copolymers having more than 30 wt% or more of unsubstituted (meth)acrylic acid esters such as isobutyl methacrylate, hydroxypropyl methacrylate and hydroxyethyl methacrylate are disclosed (Table A). The flow control agent is designed to have a low PI (col. 3, lines 30-32). The examples give flow control agents having a PI less than 2.0 (col. 24, line 49; col. 25, line 35; col. 26, lines 2 & 59). The flow control agent clearly has a T_g within the range recited in claim 9. For example (Table C), a copolymer of isopropyl methacrylate and 2-ethylhexyl methacrylate (50:50 wt%) is expected to have a T_g of about 35°C. The flow

control agent is preferably a linear polymer (col. 3, line 65), which corresponds to claims 11 and 12, and has an M_n of 5,000-30,000 (col. 4, line 28). Corresponding to claim 16, the disclosed flow control agent is employed in an amount of 1.4% by weight relative to the weight of the epoxy-functional resin (Table 1). A process of improving the smoothness of a coating by applying the powder coating to a substrate and curing at 145°C is also taught (col. 28, lines 25-46 & 67).

In order to see with better clarity how the claimed composition is anticipated by Schimmel's composition, the followings are further noted. First, the present claims are product-by-process claims. Accordingly, although Schimmel does not disclose a (co)polymer obtained by the claimed process, it is noted that "[e]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process", *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, "although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product", *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113. Second, it is recited in claim 1 that, in formula (I), the moiety E includes "a group which results from a substitution or elimination reaction of the attached stable free nitroxyl

radical." In other words, the moiety E can be any chemical group. Schimmel discloses numerous groups that read on such E moiety (col. 14, lines 15-67).

Applicant is encouraged to provide evidence of criticality regarding the presently claimed polymerization process or amend the claims to integrate the recited alkoxyamine and/or stable nitroxyl radical into the structure of the (co)polymer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 10, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schimmel et al. (US 6,197,833) in view of Sherwin et al. (US 4,711,944).

9. Regarding the limitations set forth in these claims, the composition of claim 1 has been shown to be anticipated by Schimmel as discussed above. Schimmel includes embodiments where the monomers are tert-butyl (meth)acrylate as mentioned. Also,

Schimmel does not preclude an embodiment where the flow control agent has a composition as recited in claims 14 and 15. The disclosed polymer is solid at room temperature (examples). However, Schimmel fails to teach a specific polymer made of more than 30 wt% of *tert*-butyl(meth)acrylate.

1. Sherwin et al. (Sherwin, hereafter) teaches humidity-resistant coating employing branched polymers of *tert*-butylacrylate (Title). It is disclosed that coating compositions containing copolymer of *tert*-butylacrylate and a polyfunctional acrylate exhibit superior humidity resistance compared to compositions containing polymers not possessing these two monomers (col. 1, lines 56-65). It is further disclosed that known weatherable coatings based on copolymers of *tert*-butyl acrylate, due to the high T_g of the polymers when high T_g comonomers are employed, are more appropriately formulated into powder coatings (col. 1, lines 35-55). The polymers comprise about 30-60 wt% of *tert*-butyl acrylate, based on the total monomers (col. 1, line 40; col. 2, line 7).

10. In light of such teachings and since Schimmel teaches a powder coating composition containing a polymeric flow control agent made of monomers that include *tert*-butyl(meth)acrylate, and the only requirement is on the glass-transition temperatures of the monomers as discussed above, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have employed *tert*-butylacrylate in the amount taught by Sherwin as the first monomer in the polymer taught by Schimmel and selected from the list of monomers taught by Schimmel a second monomer having an appropriate T_g value so that the resulting (thermally cured) coating may have improved humidity resistance.

Response to Arguments

11. Applicant's arguments with respect to claims 1-6 and 8-17 have been considered but are moot in view of the new ground(s) of rejection. In previous Office actions, claims 1-6, 8-9, 11-13 and 16-17 are rejected under 35 U.S.C. 103(a) over Schimmel (above) in view of Kramer et al. (US 6,433,100) and claims 10, 14 and 15 are rejected under 35 U.S.C. 103(a) over Schimmel in view of Kramer and Sherwin (above), where Kramer was employed to show that replacing the terminal halogen group in the polymer taught by Schimmel with the nitroxyl group taught by Kramer would have been obvious to a person of ordinary skill in the art. However, upon further consideration of the claimed invention, especially with regard to the recitation of the moiety E in the formula (I) in claim 1, it is realized that the (co)polymer of claim 1 includes polymers having no nitroxyl group(s) attached at the terminal(s). The flow control agent taught by Schimmel, though obtained by a process different from the claimed process, therefore reads on the claimed leveling agent as discussed above. For the same reason, claim 7, which was previously indicated as allowable, is now rejected. The claimed composition would be more distinguishable over the prior art composition if the moiety E in claim 1 is amended to represent one of the recited stable nitroxyl free radicals.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Nguyen
Examiner
Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796